

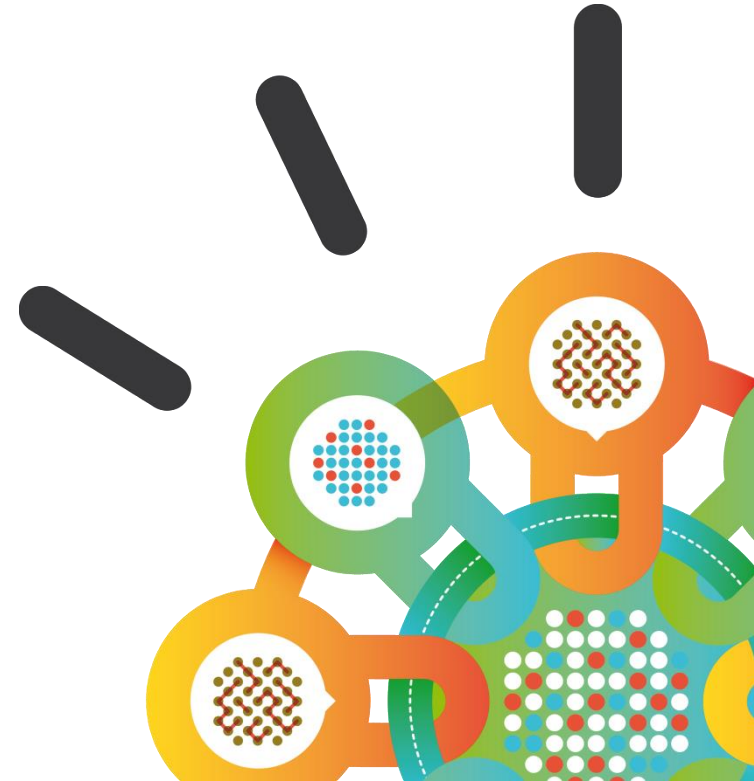
Security Intelligence.  
Think Integrated.

# Attain Clarity of your Security Posture with new IBM Security QRadar Incident Forensics



**Jay Bretzmann**  
Product Marketing

October, 2014



## QRadar Incident Forensics – Hands-on Workshop

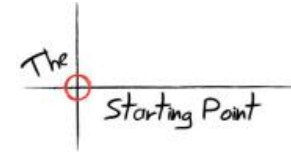
- QRadar Overview – 10min
- Instructor Tutorial – 20min
- Search Case #1 – 30min
- Search Case #2 – 30min
- Wrap-up



# Traditional customer challenges employing network forensics

Critical gaps exist in available forensics and threat mitigation offerings to recover from an incident

Difficulty identifying true incidents hidden in mounds of data



Dependency on specialized skills to conduct detailed investigations



Disparate tools with limited intelligence inhibit productivity and efficacy in analysing incidents



Security teams must ***reduce the time to detect and respond to threats.*** Confusion and wasted time aid the attacker.

## Ponemon Institute LLC Research Findings

### *Network forensics industry benchmarks*

Average time required to complete one investigation regarding a suspected security breach?

• 58.7 hours

Average time required to complete one forensic investigation from detection to containment for a security breach?

• 6.8 days

Percentage of organizations using a particular member of the IT security team for investigations?

• 71%

Percent of forensic investigators/analysts employed with advanced degrees?

• 56%

# IBM QRadar Security Intelligence Platform

*An integrated, unified architecture in single web-based console*

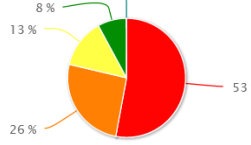
- Log Management
- Security Intelligence
- Network Activity Monitoring
- Risk Management
- Vulnerability Management
- Network Forensics

admin | Preferences | Help | Messages 6 | IBM

Dashboard | Offenses | Log Activity | Network Activity | Assets | Forensics | Reports | Risks | Vulnerabilities | Admin
System Time: 6:21 AM

Show Dashboard: Threat and Security Monitoring | New Dashboard | Rename Dashboard | Delete Dashboard | Add Item... | Refresh Paused: 00:01:00

### Vulnerability Count / Risk

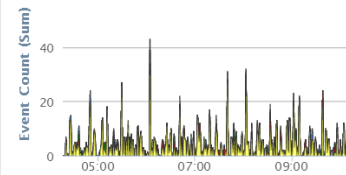


**Legend**

- Medium
- High
- Low
- Warning
- Unknown

#### Top Systems Attacked (Event Count)

Reset Zoom | 21/10/2013 04:17 - 21/10/2013 10:17



**Legend**

### My Offenses

Offense Name	Magnitude
DDOS Detected	<span style="display: inline-block; width: 100px; height: 10px; background: linear-gradient(to right, yellow, orange, red);"></span>
OS Attack: MS_SMB2 Validate Provider Callback CVE-2009-3103	<span style="display: inline-block; width: 100px; height: 10px; background: linear-gradient(to right, yellow, orange, red);"></span>
Risk: assess devices (i.e. firewalls) that allow banned protocols from the Internet	<span style="display: inline-block; width: 100px; height: 10px; background: linear-gradient(to right, yellow, orange, red);"></span>
XForce: Communication to a known Bot Command and Control containing Web.HTTPWeb	<span style="display: inline-block; width: 100px; height: 10px; background: linear-gradient(to right, yellow, orange, red);"></span>
XForce: Connection to a known Malware site is detected	<span style="display: inline-block; width: 100px; height: 10px; background: linear-gradient(to right, yellow, orange, red);"></span>

#### Top Services Denied through Firewalls (Event Count)

Reset Zoom | 21/10/2013 04:17 - 21/10/2013 10:17



**Legend**

- 0
- 80

[View in Log Activity](#)

### Top Category Types

Category	Offenses
Firewall Permit	72
Potential Botnet Connection	59
Misc Exploit	45
ACL Deny	26
Web Exploit	23

#### Flow Bias (Total Bytes)

10/21/13 12:21 AM - 10/21/13 6:21 AM



**Legend**

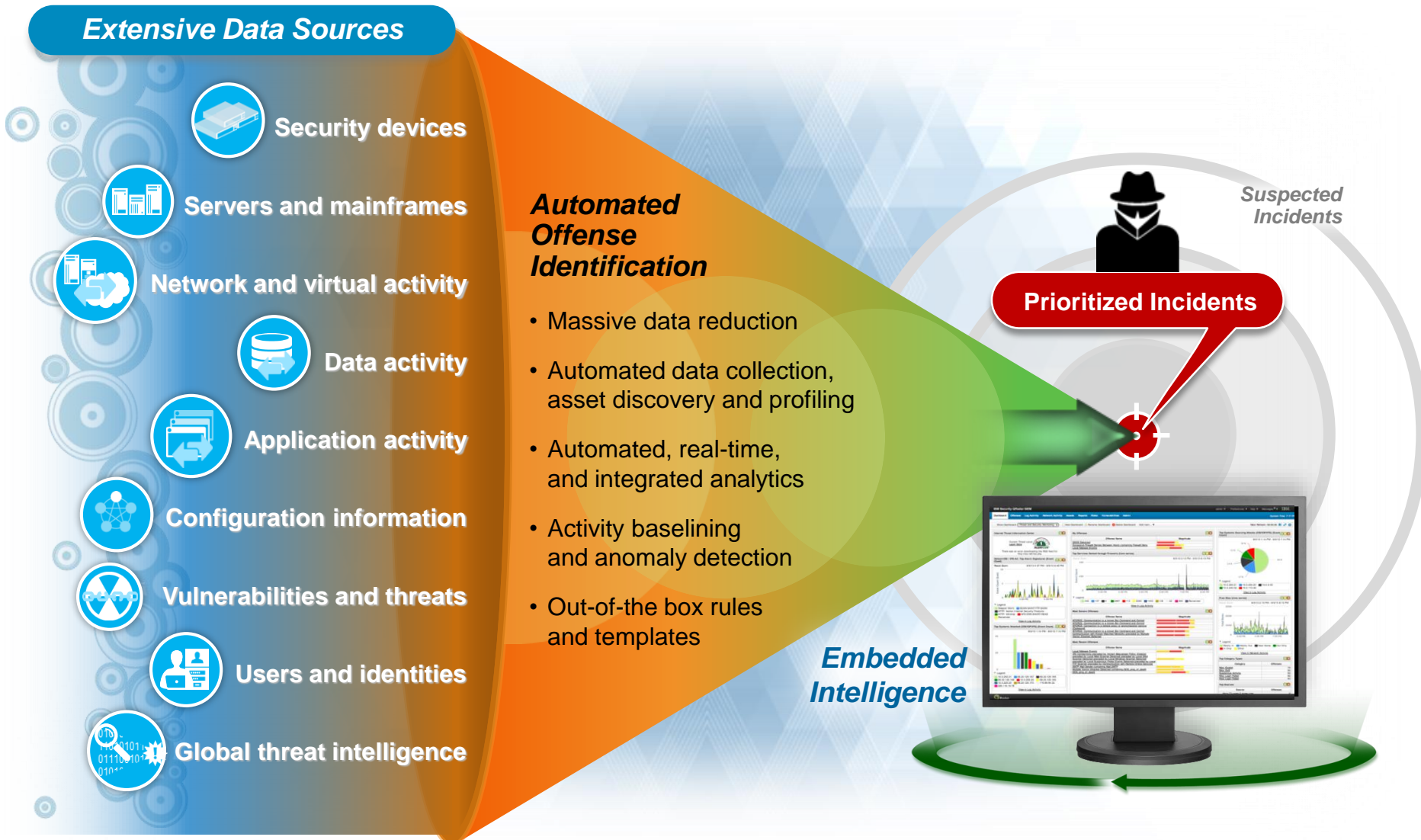
- Mostly In
- Mostly Out
- Near Same
- Other
- Out Only
- In Only

[View in Network Activity](#)

#### Top Sources

Source	Offenses
10.0.110.239	15

# Big Data approach to automated offense identification



# Answering questions to help prevent and remediate attacks

*What was the attack?*

*Is the attack credible?*

**Offense 909**
Summary Display ▾ | Events | Connections | Flows | View Attack Path | Actions ▾ | Print

Magnitude	<div style="width: 100%; height: 10px; background: linear-gradient(to right, red, orange, yellow);"></div>	Status		Relevance	8	Severity	5	Credibility	4	
Description	Potential Data Loss	Offense Type	Source IP							
		Event/Flow count	111 events and 1,042 flows in 13 categories							
Source IP(s)	10.0.110.221 (dhcp-221-users-2.acme.com)	Start	Oct 18, 2013 12:28:02 PM							
Destination IP(s)	Local (2) Remote (376)	Duration	4d 10h 42m 57s							
Network(s)	Multiple (3)	Assigned to	admin							

**Offense Source Summary**

IP	10.0.110.221	Location	Users.Users-2
Magnitude	<div style="width: 100%; height: 10px; background: linear-gradient(to right, yellow, orange);"></div>	Vulnerabilities	0
Username	compliance	MAC Address	00:0E:0C:B4:D8:EE
Host Name	dhcp-221-users-2.acme.com	Weight	0
Asset Name	dhcp-221-users-2.acme.com	Events/Flows	15,310
Offenses	8		

**Last 5 Notes**

Notes	Username	Creation Date
Potential data loss detected, forensics case created	admin	Oct 21, 2013 6:39 AM

**Forensics Reconstructions**

Case	Collection	IP	Start	End	Status
DataLoss	DataLoss	10.0.110.221	3/27/2014 3:31:00 PM	3/27/2014 4:31:00 PM	SUCCESS

**Top 5 Source IPs**

Source IP	Magnitude	Location	Vulnerability	User	MAC	Weight	Offenses	Destination(s)	Last Event/Flow	Events/Flows
dhc...	<div style="width: 100%; height: 10px; background: linear-gradient(to right, yellow, orange);"></div>	Users.Users-2	No	compliance	00:0E:0C:B4:D8:EE	0	8	21	0s	15,310

*Who was responsible for the attack?*

*How valuable are the targets to the business?*

*Where are they located?*

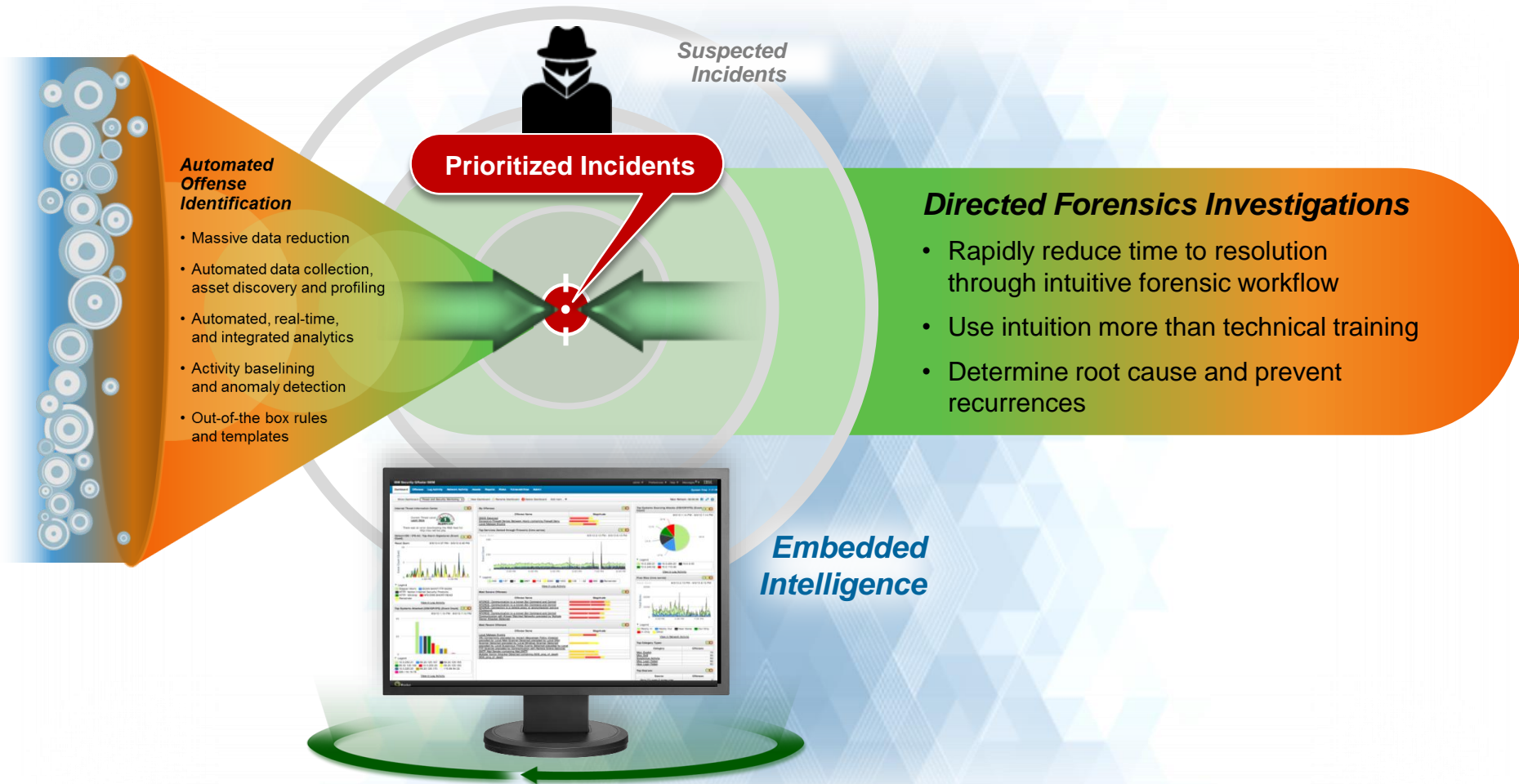
*What was stolen and where is the evidence?*

*Are any of the assets vulnerable?*

*How many targeted assets are involved?*



# Extend clarity around incidents with in-depth forensics data





# IBM Security QRadar Incident Forensics

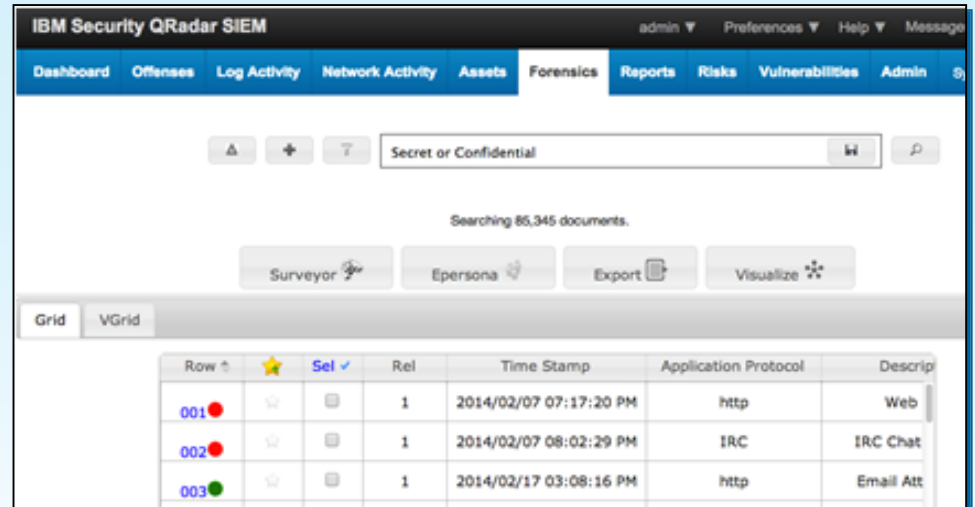
*Intuitive investigation of security incidents*



**Drastic reduction of investigation time**

**Evidence gathering against malicious entities**

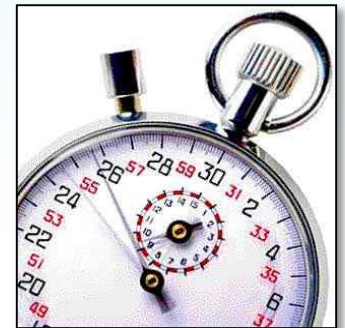
**Root cause identification of successful breaches**



*“Research findings indicate enterprise organizations want increased awareness of advanced threats without the need for additional resources and forensics expertise.”*

**Jon Oltsik, Enterprise Systems Group (ESG)**

**Win the race against time**





# Better clarity into network activity

## From session data analysis yielding basic application insights

Flow Information			
Protocol:	tcp_ip	Application:	Web.Facebook.Application
Magnitude:		Relevance:	6
First Packet Time:	2010-10-04 01:00:17	End Time:	2010-10-04 01:00:17
Event Name:	Web.Facebook.Application		
Low Level Category:	Web		
Event Description:	Application detected with HTTP decoder domain lookup		
FBStatusPost (custom):	my%20asn%20is%20123456789%20and%20my%20credit%20card%20number%20is%201234-4321-4567		
HTTP User-Agent (custom):	Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; AppleWebK/533.4 (KHTML, like Gecko) Chrome/9.0.595.130 Safari/537.6		
HTTP Host (custom):	www.facebook.com		
HTTP GET Request (custom):	/profile.php?id=100001252874890 HTTP/1.1		
HTTP Content-Type (custom):	application/javascript, charset=utf-8		
HTTP Response Code (custom):	200 OK		
Google Search Terms (custom):	NIA		
HTTP Server (custom):	NIA		
FBUsername (custom):	rpnewman23665@40hotmail.com		
HTTP Version (custom):	1.1		

Source Payload	Destination Payload
<pre> GET /profile.php?id=100001252874890 HTTP/1.1 Host: www.facebook.com Connection: keep-alive User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; AppleWebK/533.4 (KHTML, like Gecko) Chrome/9.0.595.130 Safari/537.6 Host: www.facebook.com Connection: keep-alive User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; AppleWebK/533.4 (KHTML, like Gecko) Chrome/9.0.595.130 Safari/537.6 Host: www.facebook.com Connection: keep-alive User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; AppleWebK/533.4 (KHTML, like Gecko) Chrome/9.0.595.130 Safari/537.6 Host: www.facebook.com Connection: keep-alive </pre>	<pre> HTTP/1.1 200 OK Cache-Control: private, no-cache, no-store, max-age=0, must-revalidate Expires: Sat, 01 Jan 2000 00:00:00 GMT Vary: CP, DSP, LAM Pragma: no-cache Set-Cookie: act=deleted; expires=Tue, 11 Dec 2007 00:00:00 GMT; .www.facebook.com; path=/; domain=.facebook.com; HttpOnly=1 </pre>

## To full visualization of extended relationships and embedded content

ID	Date	Protocol	Description	Relevancy (1)
34	2008/04/24 09:24:14 PM	IMAP	Email Message	1
35	2008/04/24 09:24:14 PM	IMAP	Email Message	1
36	2008/04/24 09:24:14 PM	IMAP	Email Alternate Format	1
37	2008/04/24 09:24:14 PM	IMAP	Email Attachment	1
38	2008/04/24 09:24:14 PM	IMAP	Email Alternate Format	1
39	2008/04/24 09:24:14 PM	IMAP	Email Attachment	1
40	2008/04/25 12:11:49 AM	POP3	Email Message	1
41	2008/04/25 12:11:49 AM	POP3	Email Alternate Format	1
42	2008/05/01 10:43:18 PM	HTTP	Web Page	1
43	2008/05/01 10:43:18 PM	HTTP	Web Page	1
44	2008/05/01 10:43:31 PM	HTTP	Web Page	1
45	2008/05/01 10:43:32 PM	HTTP	Web Page	1
46	2008/05/01 10:44:15 PM	HTTP	Web Page	1
47	2008/05/26 06:04:06 PM	POP3	Email Message	1
48	2010/01/26 06:04:07 PM	POP3	Email Message	1
49	2010/01/26 06:11:11 PM	POP3	Email Message	1
50	2010/02/02 06:07:32 PM	SMTP	Email Message	1
51	2010/02/02 09:00:00 PM	HTTP	Email Message Header	1
52	2010/02/02 09:00:00 PM	HTTP	Email Message Header	1
53	2010/02/02 09:00:04 PM	HTTP	Email Message Body	1
54	2010/02/02 09:10:04 PM	HTTP	Email Attachment Reference	1
55	2010/02/02 09:10:26 PM	HTTP	Email Message	1

The screenshot shows the IEX website interface with a navigation bar at the top. The main content area features several news articles with headlines such as "10 van Tak: Serieuze zaken", "IEX Beursblog", and "Speculeren met gokken". On the right side, there is a "Marktvandaag" section with a line chart and a "Realtime" section with a table of stock prices. The bottom of the page includes a "Ster" logo and a "Kies uw bank partner" link.

# Client example: U.S. financial organization shortens investigations backlog with integrated network forensics

## Accelerate incident investigations

Prior network forensics point solution averaging

# Hours

to investigate an incident as either false positive or true threat reduced to

# Minutes

using integrated capability



### **Business challenge**

- Completing daily lists of QRadar offense investigations to avoid building backlogs
- Quickly ruling out false positives to spend more time on true threat remediation plans
- Eliminate outsourcing of forensics analysis

### **IBM Security Solutions** (QRadar SIEM, QRadar QFlow, QRadar Incident Forensics)

Single console Web-based interface provides clear direction regarding potential scope and risk for identified incidents. Right-click integration and Forensics dashboard provide ultimate clarity revealing underlying conditions supporting offense.

## Find out more on Incident Forensics



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[www.ibm.com/software/products/en/qradar-incident-forensics](http://www.ibm.com/software/products/en/qradar-incident-forensics)



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**Now it's your turn to try it!**

Statement of Good Security Practices: IT system security involves protecting systems and information through prevention, detection and response to improper access from within and outside your enterprise. Improper access can result in information being altered, destroyed or misappropriated or can result in damage to or misuse of your systems, including to attack others. No IT system or product should be considered completely secure and no single product or security measure can be completely effective in preventing improper access. IBM systems and products are designed to be part of a comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products or services to be most effective. IBM DOES NOT WARRANT THAT SYSTEMS AND PRODUCTS ARE IMMUNE FROM THE MALICIOUS OR ILLEGAL CONDUCT OF ANY PARTY.

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